UDC 669.71:539.375

USSR

LIKHACHEV, V. A., VLADIMIROVA, G. V., MYSHLYAYEV, M. M., and OLEVISKIY, S. S., Physicotechnical Institute imeni A. F. Ioffe and Institute of Solid State Physics, Academy of Sciences USSR

"Aluminum Work Hardening at Temperature Discontinuities in the Process of Creep"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 6, Jun 70, pp 1280-1287

Abstract: Results are presented of the experimental investigation of increased creep strength of metals resulting from time reduction of temperature in the process of deformation. It is observed that work hardening of metal is clearly manifested only when a considerable density of dislocation loops originates in the boundaries of blocks and near them. It is shown that work hardening involves preliminary deformation of creep, develops in time, and is sensitive to stress and temperature-velocity conditions. The nature of work hardening of metals is discussed. The authors thank V. L. Indenbom, A. N. Orlov, and V. I. Vladimirov for their interest in the work and for discussing the results.

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1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--GRAPHING THE RESULTS OF TWO FACTOR FLOTATION EXPERIMENTS -U-

AUTHOR-(02)-OLEVSKIY, V.A., OLEVSKAYA, I.V.

COUNTRY OF INFO--USSR

SOURCE--OBOGASHCH. RUD 1970, 15(1-2), 95-7

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--FLOTATION, ORE BENEFICIATION, NICKEL ORE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1427 STEP NO--UR/0549/70/015/001/0095/0097

CIRC ACCESSION NO--AP0133379

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 011

CIRC ACCESSION NO--AP0133379

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE EXPTL. RESULTS OF A SERIES OF SIX 2 FACTOR FLOTATION EXPTS., AS GIVEN BY KOPATILOV (1970), A METHOD OF GRAPHIC DIAGRAMMATIC INTERPRETATION OF SUCH DATA IS DEMONSTRATED. IT CONSISTS IN PLOTTING A BASIC DIAGRAM FOR THE FUNCTIONS EPSILON EQUALS EPSILON(X SUB1, X SUB2) (EPSILON IS THE DEGREE OF NI RECOVERY, X SUB1 AND X SUB2 ARE UNIT CONSUMPTIONS OF THE COLLECTOR AND FROTHER, RESP.), IN WHICH THE CURVES FOR EQUAL VALUES OF EPSILON ARE CONSTRUCTED. DATA INTERPOLATED AND (OR) EXTRAPOLATED FROM THIS GRAPH ENABLE THE PLOTTING OF 2 OTHER DIAGRAMS, WHERE ALWAYS ONE OF THE INDEPENDENT VARIABLES (X SUB1 OR X SUB2) IS REPRESENTED IN THE FORM OF SEVERAL ISOLINES IN THE SYSTEM OF COORDINATES BASED ON THE OTHER 2 VARIABLES. THUS, THE EFFECTS OF EACH OF THE FACTORS ON THE OTHER EXAMD. PROCESS PARAMETERS CAN BE EVALUATED RAPIDLY AND CLEARLY.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--GRAPHING THE RESULTS OF TWO FACTOR FLOTATION EXPERIMENTS -U-

AUTHOR-(02)-OLEVSKIY, V.A., OLEVSKAYA, I.V.

COUNTRY OF INFO--USSR

SOURCE--OBOGASHCH. RUD 1970, 15(1-2), 95-7

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--FLOTATION, ORE BENEFICIATION, NICKEL ORE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1427 STEP NO--UR/0549/70/015/001/0095/0097

CIRC ACCESSION NO--AP0133379

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133379

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE EXPTL. RESULTS OF A SERIES OF SIX 2 FACTOR FLOTATION EXPTS., AS GIVEN BY KOPATILOV (1970), A METHOD OF GRAPHIC DIAGRAMMATIC INTERPRETATION OF SUCH DATA IS DEMONSTRATED. IT CONSISTS IN PLOTTING A BASIC DIAGRAM FOR THE FUNCTIONS EPSILON EQUALS EPSILON(X SUB1, X SUB2) (EPSILON IS THE DEGREE OF NI RECOVERY, X SUB1 AND X SUB2 ARE UNIT CONSUMPTIONS OF THE COLLECTOR AND FROTHER, RESP.), IN WHICH THE CURVES FOR EQUAL VALUES OF EPSILON ARE CONSTRUCTED. DATA INTERPOLATED AND )OR) EXTRAPOLATED FROM THIS GRAPH ENABLE THE PLOTTING OF 2 OTHER DIAGRAMS, WHERE ALWAYS ONE OF THE INDEPENDENT VARIABLES (X SUB1 OR X SUB2) IS REPRESENTED IN THE FORM OF SEVERAL ISOLINES IN THE SYSTEM OF COORDINATES BASED ON THE OTHER 2 VARIABLES. THUS, THE EFFECTS OF EACH OF THE FACTORS ON THE OTHER EXAMD. PROCESS PARAMETERS CAN BE EVALUATED RAPIDLY AND CLEARLY.

UNCLASSIFIED

USSR

UDC 621.791:669.71:613.48

OLEYNICHENKO, K. A., Engineer, KORNEYEV, A. D., Engineer, ZUSIN, V. YA., Engineer, (Zhdanov Institute of Metallurgy), and KAZAKOV, M. P., Engineer (Zhdanov Heavy Machinery Plant)

"Ozone Concentration in the Working Area During Aluminum Welding"

Moscow, Svarochnoye Proizvodstvo, No 7, Jul 70, pp 48-49

Abstract: A study was made of ozone contamination of the working area during automatic welding of aluminum. The study was made under laboratory and plant conditions. The procedure for determining the ozone concentration is based on the ozone-potassium iodide interaction ($2\ KI+H_2O+O_2= I_2+2KOH+O_2$). The ozone concentration under plant conditions was determined in welding 25-mm-thick panels of railroad containers made of A5 aluminum, and also in welding annular joints inside containers. Experimental procedures are briefly described, and averaged results of 10 experiments are presented in a table. With the relative instability of ozone taken into account, measurements were taken in order to determine its concentration at various distances from the arc, in the vertical and horizontal directions. A schematic experimental setup and the dependence of concentration on distance in both directions are presented. Ozone concentration at

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USSR

OLEYNICHENKO, K. A., et al, Svarochnoye Proizvodstvo, No 7, Jul 70, pp 48-49

the welder's respiratory level was found to be 0.44 mg/m$^3$ (under the shield) and 0.52 mg/m$^3$ (in front of the shield) in panel welding, and 2.26 mg/m$^3$ and 4.16 mg/m$^3$ in welding inside the container. These figures are substantially higher than the admissible level (0.1 mg/m$^3$). Local exhaust ventilation is recommended for the reduction of contamination. 1 figure, 1 table, 4 references.

2/2

1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--FIRST STEPS INTO SCIENCE -U-

AUTHOR-(02)-NETYKSA, V., OLEYNICHENKO, L.

COUNTRY OF INFO--USSR

SOURCE--KOMSOMOL, SKAYA PRAVDA, MAY 5, 1970, P 2, COLS 1-5

DATE PUBLISHED-------70

SUBJECT AREAS--AERONAUTICS, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--AVIATION INSTITUTE, RESEARCH PROGRAM, SCIENTIFIC R AND D

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0064 STEP NO--UR/9007/70/000/000/0002/0002

CIRC ACCESSION NO--AN0100624

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0100624

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE REVIEWS THE RESEARCH PROGRAM OF THE STUDENTS DESIGN BUREAUS AT MAI, MOSCOW AVIATION INSTITUTE. THE MAI SUPPORTS SEVEN STUDENTS DESIGN BUREAUS, SKB, S. TWO SCIENCE SOCIETIES, KLUBY AND SEVENTY SCIENCE CLUBS, KRUZHKI. THE SKB, S ARE DOING RESEARCH ON A SELF SUPPORTING CONTRACTUALPRINCIPLE. HOWEVER, SOME RESEARCH IS PAID OUT OF THE STATE BUDGET. "THE INVESTIGATION OF PARAMETERS AND CHARACTERISTICS OF PASSENGER AIRCRAFT OF THE AIRBUS TYPE" AND "SEMICONDUCTOR SENSORS AND CONVERTERS" ARE SOME OF THE PROJECTS HANDLED BY THE STUDENTS. THE SKB-2 IS WORKING ON THE DESIGN OF A SINGLE SEATER HELICOPTER. THE RECENTLY ESTABLISHED SKB FOR AIRCRAFT MODELING IS DESIGNING SPORTS TYPE AND EXPERIMENTAL MODELS. SOME PROJECTS, SUCH AS SPORTS AIRPLANE "KVANT" AND SMALL SUBMARINES FOR THE MOVIE INDUSTRY AND FISHERIES WERE DEVELOPED BY JOINT EFFORTS OF SEVERAL SPECIALISTS. THIS SPRING, A FAMILY OF SMALL MODEL ENGINES DEVELOPED AND MADE BY THE SKB-2, THE ULTRASONIC UNDERWATER TELEPHONE STATION, "VOLNA-1", DEVELOPED BY THE SKB-4, AND THE MODEL OF AN AGRICULTURAL AIRPLANE, DESIGNED BY THE SKB-5, WERE EXHIBITED AT THE EXPOSITION OF ACHIEVEMENTS OF NATIONAL ECONOMY IN MOSCOW. LAST YEAR, THE MAI COUNCIL OF THE STUDENT SCIENTIFIC SOCIETY, SOVET SNO, WAS REORGANIZED AS THE COUNCIL FOR SCIENTIFIC RESEARCH WORK OF THE STUDENTS, SOVET PO NIRS. HENCE, STUDENT RESEARCH AND DEVELOPMENT WORK IS NO LONGER GUIDED BY A SOCIAL ORGANIZATION BUT BY A COUNCIL APPOINTED BY THE PRESIDENT OF THE INSTITUTE.

UNCLASSIFIED

USSR

UDC 629.78.015.076.8

VIKTOROV, B. V., OLEYNICHENKO, I. G., and UKOLOV, I. S.

"Investigation of a System of Variable Structure for Controlling Descent in an Atmosphere With Account Taken of Time Lag in Processing the Control Command"

Inform. Materialy. Nauch. Sovet po Kompleks. Probl. (Information Materials of the Scientific Council on Complex Problems). "Kibernetika." AN SSSR, No 6 (53), 1972, pp 47054 (from Referativnyy Zhurnal, Raketostroyeniye, No 5, 1972, Abstract No 5.41.136 by T. A. Ye.)

Translation: In a preliminary investigation of descent control systems, the ordinary trajectory motion of the descending craft is studied separately from the motion of the descending craft in relation to the center of mass. However, a lag in processing the control command exerts a substantial influence upon the quality of the control process. There is pointed out the necessity for simultaneous consideration of the total motion of the descending craft, and for determining the influence of comparatively rapid oscillations of the craft in relation to the center of mass upon the character of control of the parameters of trajectory motion. 5 figures. 5 references.

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USSR UDC 537.29

SMOLENTSEV, V. P., KHAYRUTDINOV, A. K., OLEYNICHENKO, T. F., and KOBELEVA, T. K., Kazan

"Metallographic Investigations of the Surface Layer of Alloys After Dimensional Electrochemical Treatment"

Moscow, Fizika i Khimiya Obrabotki Metallov, No 1, Jan-Feb 71, pp 135-137

Abstract: Results are presented on metallographic investigations of surface layers of hardened 40KhNMA and OKhN3MFA steels and AVT1 and VTZ-1 alloys after dimensional electrochemical treatment within the whole range of current densities in electrolytes used in the production of channels in long-measuring parts. Recommendations for applying dimensional electrochemical treatment and for the selection of allowances for the after treatment are given. The 40KhNMA and OKhN3MFA steels, hardened to HRC 35-37, and the AVT1 aluminum alloy showed no signs of corrosion by the electrochemical treatment, but the VTZ-1 titanium alloy corroded along the grain boundaries up to a depth of 0.03 mm.

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1/2 044 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE METAL PASSES THE TEST -U-

AUTHOR--GLEYNICHENKO, YA.

COUNTRY OF INFO--USSR

SOURCE--SOTSIALISTICHESKAYA INDUSTRIYA, JULY 8, 1970, P 3, COLS 1-5

DATE PUBLISHED--08JUL70

SUBJECT AREAS--MATERIALS, ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--METAL TEST, STEAM TURBINE, TURBINE ROTOR, TURBINE BLADE, METALLURGIC RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1085 STEP NO--UR/0533/70/000/000/0003/0003

CIRC ACCESSION NO--AN0109210
UNCLASSIFIED

2/2 044 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AN0109210

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SCIENTIFIC RESEARCH TENSOMETRIC LABORATORY OF THE ZHITOMIR GENERAL ENGINEERING SCHOOL FAKUL, TET OF THE KIYEV POLYTECHNIC INSTITUTE IS LOCATED IN A DEEP CELLAR BEHIND THE HEAVY METAL DOORS. IT ANALYZES PROPERTIES AND QUALITIES OF METAL PARTS UNDER STRESS. THE LABORATORY SERVES NOT ONLY THE ZHITOMIR MECHANICAL PLANT. IT DOES CONTRACTUAL WORK FOR PLANTS AND RESEARCH INSTITUTES OF MOSCOW, KUYBYSHEV, NIKOLAYEV, NOVOCHERKASSK, ETC. THE LABORATORY IS ONE OF THE FEW IN THE UNION THAT TEST STEAM BURBINE COMPONENTS. ITS ANNUAL WORK LOAD AMOUNTS TO 60-70 THOUSAND RUBLES. ITS STAFF CONSISTS OF 2 CANDIDATES OF SCIENCES AND 7 ENGINEERS. FIVE OF THE ENGINEERS ARE WORKING TOWARD AN ADVANCED DEGREE. THE LABORATORY IS DIRECTED BY DOCENT VLADIMIR GRIGOR, YEVICH BAZHENOV, WHO HAS PREPARED HIS DOCTORAL DISSERTATION. SENIOR INSTURCTOR A. D. BALYUK AND LABORATORY MECHANIC V. A. TYAZHEVICH ARE MENTIONED.

UNCLASSIFIED

Instrumentation and Equipment

USSR

OLEYNICHENKO, YA.

"Metal Takes an Examination"

Moscow, Sotsialisticheskaya Industriya, No 157, Wednesday, 8 July 1970, p 3

Abstract: The Scientific-Research Tensometric Laboratory of the Zhitomir General Technical Department of Kiev Polytechnic Institute studies the properties and quality of metal parts under stress conditions. The test stand develops up to 90,000 rpm's. Centrifugal ventilation disks, steam turbine constructions, etc., which must withstand high-frequency vibrations, are investigated. The strength of each part, the resistance of the materials, and the point at which the construction becomes useless are determined.

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USSR UDC 621.791:061.3:621.9.06.002:658.563

ZHDANOVICH, V. A., and OLEYNIK, A. I., Engineers

"Conference on the Current State and Prospects for Development of Weldment Production in the Machine-Tool Industry"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 71, p 59

Abstract: The conference was held in October, 1970 in Kiev and was attended by 300 persons representing 108 enterprises and 55 institutes and other organizations.

The conference was opened by the Chief of the Department of the Main Administration for the Ministry of Machine Tool-Building and the Tool Industry, V. V. Fruktov.

A. A. Mazur (VISP) gave a full analysis on the state of welding production in tool making. P. V. Ignatenko (Institute of Electric Welding imeni YE. O. Paton) presented information on successes in the development of welding in the USSR in the last five years and the complex program for further development in 1971-75. It was noted that weldment output in the USSR has risen

USSR

ZHDANOVICH, V. A., and OLEYNIK, A. I., Svarochnoye Proizvodstvo, No 3, Mar 71, p 59

40% in the last four years. YE. V. Favrilov (VISP) discussed the work of VISP in basic directions for planning complex means of mechanizing production processes, transportation, and technology.

M. G. Be l'for (Institue of Electric Welding imeni YE. O. Paton) reported on works of the Institute in the area of developing equipment for electric-arc welding. YA. YE. Kogut (VISP) discussed problems of creating mechanical welding equipment in the 1971-80 period. I. A. Markus (VISP) reported on the methodological problems of inter-plant analysis of work of welding shops and proposed scientifically based measurements of the technical and economical level of welding production. This analysis is being done with computers to accelerate its accomplishment.

V. I. Snezhko (Institue of Electric Welding imeni YE. O. Paton) discussed problems of welding production economies. ZH. I.

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ZHDANOVICH, V. A., and OL YNIK, A. I., Svarochnoye Proizvodstvo, No 3, Mar 71, p 59

Yushanin (Kolomensk Heavy Tool-Building Plant) related his experience in calculating and building welded base parts at the plant.

A. M. Suptel' (Institute of Electric Welding imeni YE. O. Paton) reported on the level of development of theoretical aspects in welding with powdered rod and the sphere of its application in the Soviet Union. In his report G. M. Man (Kiev "Krasnyy Ekskavator" Plant) discussed experience in the introduction of progressive methods of automatic and semi-automatic welding with grade PP-AN8 powdered rod. B. G. Ivanov (VNIILITMASH) told the delegates about the welding, brazing, and cutting of iron at the Moscow "Stankolit" Plant and theRyazan "Tsentrolit" Plant as well as about flame methods of surface and separating cutting in the trimming and cleaning of castings.

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USSR

Biochemistry

UDC 547.964.4+577.17

SHVACHKIN, YU. P., VDOVINA, R. G., POZNYAK, M. G., VOLUYSKAYA, YE. N., RYABTSEV, M. N., KRIVTSOV, V. F., GRACHEVA, A. K., KRASNOSHCHERKOV, S. P., NOVOSELOV, V. A., GRUZDEV, V. S., OLEYNIK, A. M., KALINKINA, Z. B., FEDOTOV, V. P., IVANOV, A. I., YUDAYEV, N. A.

"New Synthesis of Human Insulin"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 216-217

Abstract: Human insulin was synthesized on the basis of obtaining A and B chains by the solid phase method [R. B. Merrifield, J. Am. Chem. Soc., No 85, 2149, 1963; J. Stuart, et al., Tverdofazny sintez peptidov, Moscow, Mir, 1971] and subsequently combining the synthetic chains into the complete molecule of the biologically active hormone. Here, a new version of the synthesis is realized which permits exclusion of treatment of the chains with sodium in liquid ammonia which eliminates the danger of undesirable side reactions caused by this reagent [A. Marglin, et al., J. Am. Chem. Soc., No 88, 5051, 1966]. The A and B chains of human insulin were synthesized on an automated device using a spherical chloromethylated copolymer of styrene with 1% divinyl benzene as the insoluble carrier. All operations were performed in a nitrogen atmosphere. The derivatives of the L-amino acids used in the synthesis of the A and B chains are listed. The fluorohydrates of the chains were con-

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USSR

SHVACHKIN, YU. P., et al., Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 216-217

verted into S-sulfonates which exhibited no differences from the S-sulfonates of the corresponding natural chains of bull insulin. The synthetic A and B chains were recombined both with the corresponding natural chains and among each other. The resultant compounds had specific insulin activity of comparable magnitude to the previously synthesized insulin compounds [K. Lubke, et al., Adv. Enzymol., No 33, 445, 1970].

2/2

USSR

MOSKOVETS, S. N. (Deceased), SHERBAN, Ye. D., and OLEYNIK, A. N.

"Morphology of Wheat Streak Mosaic Virus Occurring in Moldavia"

Kishinev, Izvestiya Akademii Nauk Moldavskoy SSR, Seriya Biologicheskikh i Khimicheskikh Nauk, No 6, 1971, pp 30-34

Abstract: Wheat streak mosaic virus was found in recent years in various parts of the USSR -- Krasnodarskiy Kray, Rostovskaya and Voronezhskaya oblasts, Uzbekistan, Kazakhstan, the Ukraine, and Moldavia. In Moldavia, streak mosaic is the commonest and most injurious disease of wheat. Electron-microscopic examination of preparations of partly purified virus isolated from infected plants revealed viral particles in the form of slightly bent filaments. Measurement of 107 such particles showed that they ranged in length from 725 to 775 mμ, the average being 736±1.69 mμ. Their diameter varied from 18 to 19 mμ. The viral particles found in diseased wheat plants on Moldavian fields are identical in shape and size to wheat streak mosaic virus occurring in other parts of the world.

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USSR

UDC:536.24.02.082

SIMBIRSKIY, D. F., OLEYNIK, A. V., SKRIPKA, A. I.

"The Problem of Determination of Boundary Conditions on the Surfaces of Bodies with Variable Thermal Effects"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Nezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Building and Air Force Technology, Republic Interdepartmental Thematic Scientific and Technical Collection], No 24, 1971, pp 14-22 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 2, 1972, Abstract No 2.32.1016 from the resume)

Translation: A method is suggested for local values of heat fluxes and heat transfer factors, suitable for the most general cases of heat exchange of parts with the surrounding medium (unstable modes, operating blades of turbines, significant heat exchange, etc.). The method is based on the use of surface film thermocouples, yielding the values of temperatures on the surfaces of parts with high accuracy. Film thermocouples introduce no distortions to the heat exchange conditions and the temperature field of a part and are practically non-inertial measuring devices. A transition is made from first order boundary conditions (temperatures on the surface) to second and third order boundary

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USSR UDC: 536.24.02.082

SIMBIRSKIY, D. F., OLEYNIK, A. V., SKRIPKA, A. I., Samoletostr. i Tekhn. Vozd. Flota. Resp. Nezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Building and Air Force Technology, Republic Interdepartmental Thematic Scientific and Technical Collection], No 24, 1971, pp 14-22 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 2, 1972, Abstract No 2.32.1016 from the resume)

conditions by solving the reverse problem of heat conductivity. 5 figures; 6 biblio refs.

2.2

USSR UDC 547.26'118

SHEPELEVA, YE. S., SANIN, P. I., OLEYNIK, D. M., BATREY, YE. I. and POLYAKOVA, A. A.; Institute of Petrochemical Synthesis imeni A. V. Topchiyev, USSR Academy of Sciences, Moscow

"Phosphonic Derivatives of Adamantane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 3, 1972, pp 608-611

Abstract: The phosphonic derivatives of adamantane which have a carbon-phosphorus bond have only recently been described in the chemical literature. As is well known, one method of synthesizing organophosphorus compounds with such a bond is that of oxidizing chlorophosphonization -- that is, the reaction of halogen derivatives of trivalent phosphorus (usually phosphorus trichloride) with various hydrocarbons in the presence of oxygen. The purpose of this study was to test this method in obtaining phosphonic adamantane derivatives. To an adamantane solution within excess of phosphorus trichloride was introduced dry oxygen, the temperature of the reaction mixture being held at +3 to -5°C for 26-30 hrs. This yielded adamantylphosphonic dichloride. The authors also produced the methyl ester of adamantylphosphonic acid by reacting the acid dichloride with sodium methylate in a toluene solution, with heating. Nine derivatives of a.-p. acid were synthesized (including four isomeric forms), for

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USSR

SHEPELEVA, YE. S., et al., Doklady Akademii Nauk SSSR, Vol 203, No 3, 1972, pp 608-611

which boiling points, compositions and spectra (infrared, mass and proton magnetic resonance) were obtained.

Tables of physico-chemical constants and suggested reaction schemes are included with the paper. Some of the data obtained differ from those published by H. STETTER and W. DIETER in 1969.

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1/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--THERMODYNAMICS OF FORMALDEHYDE TRIOXANE POLYFORMALDEHYDE SYSTEM -U-

AUTHOR--BERLIN, A.A., VOLFSON, S.A., OLEINIK, E.F., YENIKOLOPYAN, N.S.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(2), 443-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, IR SPECTRUM, FORMALDEHYDE, TRIOXANE, POLYFORMALDEHYDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0245 STEP NO--UR/0459/70/012/002/0443/0449

CIRC ACCESSION NO--AP0106901

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106901

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRA OF HCHO (G) AND TRIOXANE (G) (I) ARE DIFFERENT. IR SPECTROSCOPY WAS USED TO DET. THE RELATIVE AMTS. OF HCHO AND I IN THE VAPOR PHASE ABOVE SOLID POLYFORMALDEHYDE (II) IN THE 25-72DEGREES RANGE. FROM THE RELATIVE CONCNS., AND THE REPORTED THERMODYNAMIC PROPERTIES OF HCHO, I, AND II, THE THERMODYNAMIC PARAMETERS OF HCHO AND I POLYMN. WERE CALCD. THE ACTIVATION ENTHALPY, ENTROPY, AND FREE ENERGY ARE GIVEN OF SOLID OR LIQ. II FORMATION FROM LIQ. OR GASEOUS HCHO AND LIQ., GASEOUS, OR SOLID I.

UNCLASSIFIED

JPRS 59208
6-73

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OLEYNIK, G.S.

III-14. PHASE TRANSFORMATIONS IN THE PSEUDOBINARY CdSe-CdTe SYSTEM AND OBTAINING SINGLE CRYSTALS OF SOLID SOLUTIONS

[Article by G. S. Oleynik, I. B. Mitenkova, Kiev; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 40]

The substitution solid solutions based on CdSe and CdTe are of interest in connection with the valuable semiconductor properties of the initial components.

The semiconducting solid solutions, along with a number of interesting specific properties, permit smooth variation of the basic physical parameters of the semiconductors depending on their composition.

The growth of semiconductor single crystals of solid solutions from a melt and correct interpretation of the properties of the semiconductor at increased temperatures are impossible without knowing all the phase transformations in the solutions.

The phase equilibrium of the solid state and melt in the CdSe-CdTe system of different composition and the phase transformations below the solidus line were studied. The solid state and melt equilibrium was studied using the differential-thermal analysis by the heating and cooling curves of uniform alloys.

It was established that the binary compounds CdSe and CdTe form substitution solid solutions in the entire concentration range.

The phase transformations in the solid state were studied by means of the seed crystal method. It was established that the width of the two-phase region of the alloys is approximately 2-2.5 percent. The position of the two-phase region with respect to the solid solution concentrations varies depending on the annealing temperature.

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--STRUCTURE FORMATION OF POLYCRYSTALLINE SILICON CARBIDE -U-

AUTHOR-(04)-GNESIN, G.G., PILYANKEVICH, A.N., KUZNETSOVA, O.V., OLEYNIK, G.S.

COUNTRY OF INFO--USSR

SOURCE--POROSHKOVAYA MET., APR. 1970, (4), 49-53

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SILICON CARBIDE, CARBIDE ABRASIVE, REFRACTORY MATERIAL, SINTERING FURNACE, PHASE COMPOSITION, GRAIN STRUCTURE, SINTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0637 STEP NO--UR/0226/70/000/004/0049/0053

CIRC ACCESSION NO--AP0134399

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134399

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF POLYCRYSTALLINE SIC MADE BY A REACTIVE SINTERING METHOD WAS STUDIED AND CORRELATED WITH THE ABRASIVE PROPERTIES OF THIS MATERIAL AS EXPLOITED IN THE GRINDING OF METALS AND ALSO WITH ITS HEAT RESISTANCE WHEN USED FOR THE LININGS OF FURNACES. ELECTROLYTIC ETCHING REVEALED THE PRESENCE OF A SECONDARY PHASE FORMED IN THE COURSE OF SINTERING; THE SECONDARY PHASE AROSE FROM THE MOVEMENT OF C ATOMS THROUGH THE MOLTEN SI AND APPRECIABLY MODIFIED THE MECHANICAL CHARACTERISTICS OF THE MATERIAL AS A WHOLE.

UNCLASSIFIED

USSR

UDC: None

OLEYNIK, I. N.

"Nonresonant Sound Absorption in Single-Axial Antiferromagnetics in Intense Magnetic Fields"

Leningrad, Fizika tverdogo tela, No 11, 1973, pp 3178-3187

Abstract: Although modern ultrasonic techniques are widely used in the study of magnetic phase transitions in magnetically ordered crystals, there is no theory for sound absorption in antiferromagnetics in strong magnetic fields. To rectify this situation, the author develops a theory of nonresonant absorption of sound waves to explain some of the experimental results of ultrasonic absorption in antiferromagnetic materials in intense magnetic fields. It is found that the determining mechanism for this absorption is due to the interaction of the sound waves with oscillations of the magnetic moments of the sublattices -- with magnons. This mechanism, more intense in strong magnetic fields than in weak, is the result of the appearance of ferromagnetic components of the magnetic moments. The absorption of both low- and high-frequency sound is examined. An agreement between the results of this theory and the experimental data is found. The author expresses his thanks to

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USSR

UDC: None

OLEYNIK, I. N., Fizika tverdogo tela, No 11, 1973, pp 3178-3187

R. N. Gurzhi and V. M. Kontorovich for their useful comments on the results.

2/2

USSR

OLEYNIK, I. N., Institute of Radiophysics and Electronics of the Academy of Sciences USSR, Khar'kov

"Relaxation Processes and Hydrodynamic Phenomena in Antiferromagnetics in Strong Magnetic Fields"

Leningrad, Fizika Tverdogo Tela, No 11, Nov 70, pp 3244-3251

Abstract: Relaxation processes and hydrodynamic phenomena in antiferromagnetics placed in a strong magnetic field are studied. Noting that antiferromagnetics placed in a strong magnetic field become ferromagnetic due to reversal of magnetic moments of the sublattices, the paper shows that the small ferromagnetic component of magnetic moments leads to the appearance of a new relaxation mechanism of quasi-particles which is caused by a homogeneous exchange interaction. The variation with temperature of the probability of exchange collisions changes as a result and the probability begins to depend also on the constant magnetic field. The hydrodynamic heat conductivity of the antiferromagnetic therefore changes considerably in the range of temperatures and magnetic fields in which homogeneous exchange predominates over nonhomogeneous exchange. It is also shown that
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USSR

OLEYNIK, I. N., Fizika Tverdogo Tela, No 11, Nov 70, pp 3244-3251

the abrupt change in the orientation of the magnetic moments leads to a jump in the hydrodynamic heat conductivity and the second-sound speed, if $\Theta_N^3 \ll \Theta_D^3$ and $T \ll uH_{ea}$, where $\Theta_N$ and $\Theta_D$ are the Neel and Debye temperatures and $H_{ea}$ is the field of the reversal. This jump is caused by the fact that there are exponentially few magnons in weak fields and the thermal properties of antiferromagnetics are determined by phonons, while a strong magnetic field leads to the predominance of thermal properties of magnons over phonons.

2/2

1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--THERMAL CONDUCTIVITY OF FERROMAGNETIC DIELECTRIC WITH ALLOWANCE FOR PHONONS IN THE HYORODYNAMICS APPROXIMATION -U-
AUTHOR--OLEYNIK, I.N.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 6, PP 2213-2219
DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHONON, THERMAL CONDUCTIVITY, PARTICLE INTERACTION, DIELECTRICS, FERROMAGNETIC MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2247 STEP NO--UR/0056/70/058/006/2213/2219

CIRC ACCESSION NO--AP0125825
UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL CONDUCTIVITY OF FERROMAGNETIC DIELECTRICS IS CONSIDERED IN THE HYDRODYNAMICAL APPROXIMATION IN TWO LIMITING CASES BY TAKING INTO ACCOUNT PHONONS. FOR T SMALLER THAN THETA SUBD PRIME2-THETA SUBC (THETA SUBD IS THE DEBYE TEMPERATURE AND THETA SUBC THE CURIE TEMPERATURE) IT IS SHOWN THAT THOUGH UNDER THE CONDITIONS CONSIDERED HEAT TRANSFER IS MAINLY DUE TO MAGNONS, THE VISCOSITY OF THE MAGNON PHONON GAS MAY BE DETERMINED BY PHONONS. WHEN T LARGER THAN THETA SUBD PRIME2-THETA SUBC, THE THERMAL CONDICTUVITY IS OF A PHONON AND THE VISCOSITY OF A MAGNON NATURE. IN BOTH CASES ALLOWANCE FOR MAGNON PHONON INTERACTION MODIFIES THE TEMPERATURE DEPENDENCE OF THE THERMAL CONDUCTIVITY COEFFICIENT.

FACILITY: INSTITUT RADIOFIZIKI I ELEKTRONIKI AN UKR. SSR.

UNCLASSIFIED

Acc. Nr: AP0043659 Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 3, pp 1119-1127

# SECOND SOUND AND HYDRODYNAMIC THERMAL CONDUCTIVITY IN ANTIFERROMAGNETS

I. N. Olekhnik

Second sound and hydrodynamic thermal conductivity in uniaxial antiferromagnetic samples for which the Néel temperature is lower than the Debye temperature $\Theta_N^3 \ll \Theta_D^3$ are considered. It is shown that the velocity of second sound decreases with growth of temperature since for temperatures $T \ll \varepsilon_0$ ($\varepsilon_0$ — magnon activation energy) second sound is transferred by phonons whereas for $T \gg \varepsilon_0$ it is transferred by magnons. It is also shown that although under the conditions considered heat transfer is mainly due to magnons, the viscosity of the magnon — phonon gas may be determined by phonons.

111

REEL/FRAME
19770082

21

USSR

UDC: 681.327

OLEYNIK, L. I.

"Magnetic Film Memory Matrices With High Data Storage Density"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology. Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 121-123 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B409 by B. K.)

Translation: The report deals with problems of increasing the density of packing of thin-film memory elements in flat magnetic film matrices by reducing the thickness of the substrate. It is pointed out that this reduces the field of pickups on memory elements from adjacent control lines, cuts down on the effect of creep, and improves the signal-to-noise ratio.

Metal substrates of copper foil 20-40 μm thick and a copper film 10-15 μm thick as well as pure dielectric substrates 30-50 μm thick, were studied. The results of the tests showed that matrices of memory elements on such substrates have an entirely permissible region of working currents. The indices of the technological process of manufacture of such matrices differ little

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USSR

OLEYNIK, L. I., Magnit. elementy avtomatiki i vychisl. tekhn. SIV Vses. soveshch., 1972. Ref. dokl., 1972, pp 121-123

from those on conventional memory elements on glass substrates. On the basis of the studies, it is concluded that the density of data storage in a memory unit on thin magnetic films with thin substrates can be increased to 200-300 elements per sq. cm. One illustration.

2/2

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CONCERNING THE STATE OF FATTY LIPID METABOLISM IN ATHEROSCLEROTIC PARKINSONISM OF OLD AGE, CLINICO BIOCHEMICAL CORRELATIONS -U-

AUTHOR-(03)-VAYNSHTOK, A.B., POLYUKHOV, A.M., OLEYNIK, L.I.

COUNTRY OF INFO--USSR

SOURCE--ZHURANL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 6, PP 828-834

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NERVOUS SYSTEM DISEASE, LIPID METABOLISM, ATHEROSCLEROSIS, GERIATRICS, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0232 STEP NO--UR/0246/70/070/006/0828/0834

CIRC ACCESSION NO--AP0126013

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126013

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED THE FATTY LIPID METABOLISM IN PATIENTS WITH ATHEROSCLEROTIC PARKINSONISM IN OLD AGE (60-74 YEARS). FOR COMPARATIVE PURPOSES THE FOLLOWING GROUPS OF INDIVIDUALS WERE STUDIED AS WELL: YOUNG NORMALS FROM 20-30 YEARS, OLD, PRACTICALLY NORMAL PEOPLE FROM 60-74 YEARS, PARIENTS WITH PARKINSONISM OF A NONATHEROSCLEROTIC NATURE OF THE SAME AGE, PATIENTS WITH ATHEROSCLEROTIC PARKINSONISM OLDER THAN 80 YEARS. THE BIOCHEMICAL STUDIES WERE RELATED TO THE DETERMINATION OF THE GENERAL LIPIDS IN THE BLOOD SERUM, THE GENERAL CHOLSETEROL AND ITS FRACTIONS, LECITHIN, TRIGLYCERIDES, NONESTHERIFIED FATTY ACIDS, THEIR REACTION TO THE INTRODUCTION OF HEPARIN, THE ACTIVITY OF THE LIPOPROTEID LIPAZE, BETA LIPOPROTEIDS, CHOLESTEROL CONNECTED WITH BETA LIPOPROTEIDS. THE AUTHORS STUDIED THE CORRELATIONS BETWEEN DISORDERS OF THE FATTY LIPID AND CARBOHYDRATE METABOLISM IN ATHEROSCLEROTIC PARKINSONISM AND THE DYNAMICS OF THESE INDICES AFTER A SUGAR LOADING. IT WAS POSSIBLE TO DISPLAY DISTURBANCES OF THE FATTY LIPID METABOLISM IN PATIENTS OF OLD AGE WITH ATHEROSCLEROTIC PARKINSONISM, AS WELL AS THEIR CONNECTION WITH THE PATHOLOGY OF THE CARBOHYDRATE METABOLISM. THE MOST EXPRESSED CHANGES WERE IN THE CONTENT OF THE NONESTHERIZED FATTY ACIDS AND TRIGLYCERIDES. THERE WERE CERTAIN CORRELATIONS BETWEEN THE DISTRIBUTION OF CEREBRAL ATHEROSCLEROSIS, THE DEGREE OF ITS EXPRESSION AND THE STATE OF THE FATTY LIPID METABOLISM. FACILITY: INSTITUTA GERONTOLOGII, AMN SSSR, KIYEV.

UNCLASSIFIED

USSR

DANILYUK, Corresponding Member of the Ukrainian Academy of Sciences I. I.; OLEYNIK, M. V. (Institute of Applied Mathematics and Mekhanics, Ukrainian Academy of Sciences)

"Uniqueness of the Solution of a Certain Nonlinear Problem with a Free Boundary"

Kiev, Dopovidi Akademii Nauk Ukrains'koi RSR: Seriya A - Fizyko-Tekhnichni ta Matematychni Nauky, Mar 72, pp 202-205

Abstract: The authors consider the problem of determining a doubly-connected region $G_{\Gamma,\gamma}$ with one unknown boundary component $\gamma$ ("free boundary") such that the harmonic stream function $\Psi$ of the region $G_{\Gamma,\gamma}$ satisfies, on $\gamma$, the "generalized Bernoulli condition" $|\text{grad}\,\psi| = Q$, where $Q$ is a function specified beforehand. It is always possible to assume that $\Gamma$ is the segment $0 \leqslant x \leqslant 2\pi$, $y = 0$, and $G_{\Gamma,\gamma}$ is a portion of the semistrip $0 \leqslant x \leqslant 2\pi$, $y > 0$, with identified vertical lines $x = 0$, $x = 2\pi$. The basic assertion is made that under the condition $Qy(x, y) \geqslant 0$ this problem has not

USSR

DANILYUK et al, Dopovidi Akademii Nauk Ukrains'koi RSR: Seriya A - Fizyko-Tekhnichni ta Matematychni Nauky, Mar 72, pp 202-205

more than one solution in the class of curves $y$, expressed explicitly by $y = f(x)$.

There are two bibliographic references.

2/2

USSR

UDC 543.73:539.239

MIZETSKAYA, I. B., MATAT, L. M., and OLEYNIK, N. D.

"Determining Ultramicroscopic Cobalt Impurities in Semiconductor Materials of the $A^{II}B^{VI}$ Type"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 6, 1971, pp 64-69

Abstract: The purpose of the research described in this article is to develop highly sensitive variants for the determination of small weights of cobalt impurities, in the original material from which semiconductors are manufactured, of the order of 0.5 grams. Kinetic and chemical-luminescent methods of analysis were used. The method was developed with the use of pure solutions, in triple-distilled water, and was checked through application to real specimens of monocrystals and semiconductor films. The kinetic and chemical-luminescent methods are explained, and tables of the cobalt determinations are presented. Cobalt contents of the order of $10^{-5}$ to $5 \cdot 10^{-8}$% of one gram of the total material can be detected by this method, with an average relative error of 20%. The authors are connected with the Semiconductor Institute, Ukrainian Academy of Sciences

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USSR

UDC 621.317.76:621.391.81.001.24

SOLOV'YEV, Yu. V., OLEYNIK, N. G.

"Calculation of an Optimal System of Measurements of the Time Parameters of Signals in the Presence of Additive Noise"

Elektronnaya Tekhnika. Nauchno-Tekhnicheskiy Sbornik. Kontrol'no-Izmeritel'naya Apparatura (Electronics Engineering. Scientific and Technical Collection of Works. Monitoring and Measuring Equipment), No 2 (20), 1970, pp 101-111 (from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 1, 1971, Abstract No 1.32.68)

Translation: The article deals with the passage of signals and noise through a multichannel coincidence circuit. It is shown that the value of the amplitude ratio of the signal and the noise has little effect upon the distribution of the duration of random noise, but substantially affects the distribution law of the regular signal.

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1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EFFECT OF ORGANOSILICON COMPOUNDS ON THE PROPERTIES OF POLY,METHYL ACRYLATE, COATING FILM -U-

AUTHOR-(04)-IVASHKEVICH, S.L., OLEYNIK, N.N., SOROKINA, N.S., KOTOV, M.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., TEKHNOL. LEGK. PROM. 1970, (1), 94-7

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MILITARY SCIENCES

TOPIC TAGS--ORGANOSILICON COMPOUND, POLYMETHYLMETHACRYLATE, LEATHER, FOOTGEAR, SPECIALIZED COATING, PROTECTIVE COATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1108 STEP NO--UR/0323/70/000/001/0094/0097

CIRC ACCESSION NO--AT0134794

UNCLASSIFIED

2/2 019 UNCLASSIFIED

CIRC ACCESSION NO--AT0134794 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE ORGANOSILICON COMPDS. USED HAD THE STRUCTURE (NEGATIVE SIHRO NEGATIVE) SUBN, WHERE R EQUALS ME OR ET. THEY WERE USED IN CONJUNCTION WITH AQ. EMULSIONS OF POLY(ME ACRYLATE) FOR APPLYING A PROTECTIVE COVERING TO THE UPPERS OF LEATHER WORK BOOTS. THEY GAVE IMPROVED RESISTANCE TO WATER AND TO HEAT THAN WAS OBTAINED WITH POLY(ME ACRYLATE) ALONE. COLOR FASTNESS OF THE LEATHER WAS IMPROVED AND SO WAS RESISTANCE TO ABRASION AND TO REPEATED FLEXING.

FACILITY: KIEV. TEKHNOL. INST. LEGK. PROM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 519.272

OLEYNIK, O. G., and MONAKHOV, A. V.

"Measuring System With Fast Fourier Transform"

V Sb. "Konf. po Avtomatiz. Nauch. Issled. na Osnove Primeneniya EVM, 1972" [In the Collection "Conference on Automation of Scientific Investigations on the Basis of the Application of Electronic Computers, 1972"], Novosibirsk, 1972, pp 37-41 (from Referativnyy Zhurnal, No 10, Oct 72, 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue, Abstract No 10.32.59)

Translation: The possibility is investigated to apply a digital analyzer with a small electronic computer, using the technique of Fourier analysis for investigation purposes of the characteristics of signals and for statistical analysis. The basic program realizing the algorithm of fast Fourier transform is described. It is indicated that the introduction of additional equipment makes possible the use of the analyzer for measuring the parameters of four-terminal networks. Three illustrations, three bibliographical references.

USSR

UDC: 51

OLEYNIK, T. G.

"A Note on Solution of the Problem of Selecting Optimum Specialization of Petroleum Distribution Bases in an Industrial Territory"

V sb. Mat. metody issled. i optimiz. sistem (Mathematical Methods of Studying and Optimizing Systems--collection of works), Kiev, 1971, pp 258-264 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V581)

[No abstract]

1/1

USSR

UDC: 51:330.115

OLEYNIK, T. G.

"Flow Approach to the Problem of Optimizing Petroleum Base Management"

V sb. Mat. metody issled. i optimizatsii sistem (Mathematical Methods of Studying and Optimizing Systems--collection of works), vyp. 5, Kiev, 1970, pp 82-86 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V667)

[No abstract]

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP7

TITLE--EFFECT OF HEAT TREATMENT ON THE STRUCTURE OF HIGHLY ORIENTED KAPR SPUN THREADS -U-

AUTHOR-(05)-NOSOV, M.P., MIKHLINA, V.V., PAKHOMOVA, L.N., OLEYNIK, V.G., BYCHKOVSKIY, N.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (1), 18-21

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CAPRONE, IR SPECTRUM, MOLECULAR STRUCTURE, THERMAL EFFECT, MACROMOLECULE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1820 STEP NO--UR/0183/70/000/001/0018/0021

CIRC ACCESSION NO--AP0100394

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100394

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF HEAT TREATED HIGHLY ORIENTED KAPRON (I) YARN (93.4

USSR

TELESIN, Yulius , mathematician, Central Economic-Mathematical Institute, Moscow, was discharged by decision of the Scientific Council. He had signed several protest letters.

OLEYNIK, Yu. , Dep Dir of the Institute, and

FEDORENKO, , Academician; Dir of the Institute, participated in consideration of his case.

Khronika, Vypusk 3(8), 30 Jun 69, published in Posev, Vtoroy Spetsial'nyy Vypusk, 1969, p 35

USSR

Rpt 17 Dec 71

In the article "Strategy of Planning" OLEYNIK, Yu. A., Dep Director, Central Economic-Mathematical Institute, AS USSR, discusses the results of an All-Union Scientific Conference on Optimum Planning and Management of the National Economy, which was held in Moscow in the period 13-16 Dec 71. This conference was organized by the Scientific Council on the Comprehensive Problem "Optimum Planning and Management of the National Economy" and the Central Economic-Mathematical Institute of AS USSR. Oleynik stated that this was the first time in the USSR for such a representative meeting of scientists, workers of planning and management organs, enterprises, and chairs of universities and higher educational institutions. There were reports on the improvement of the planning system and creation of automated control systems of enterprises and branches of the national economy. It is noted that economists have developed a scientific model of the five-year plan of development of the national economy for 1971-75. Improvement of optimum planning and management is not possible without the use of electronic computer techniques and automated systems. In 1972 312 large automatic control systems will go into operation. The positive experience of the Ministry of Instrument-Making, Automation Equipment, and Control Systems is noted.

Moskovskaya Pravda, 17 Dec 71, p 4, cols 1-3

(1)

RSFSR, USSR

7 Dec 71

In the article "Science and Transport: Creative Cooperation" it is noted that at a joint session of the Bureau, Department of Economics, AS USSR, and Board of Glavmosavtotrans /Main Administration of Automobile Transportation, Moscow Gorispolkom/ there was discussion of the course of fulfillment of measures for the further improvement of the system of planning and economic stimulation in subdivisions of the largest transport organization of the city. Here

GOBERMAN, I. M., Chief, Main Administration of Automobile Transportation, Moscow Gorispolkom, discussed Glavmosavtotrans at present and the paths of its further development. There was a report by

OLEYNIK, Yu. A., Dep Director, Central Economics-Mathematical Institute, AS USSR, on the basic principles for improvement of the system of management of Glavmosavtotrans. There were also different reports on different aspects of this work. Conference participants visited Motor Vehicle Combine No 1, where a system of management with the aid of electronic computer technique is now in progress. Explanations were given by Combine Director G. L. Krauze.

Moskovskaya Pravda, 8 Dec 71, p 4, col 1

(2)

USSR

Rpt 26 May 71

In the article "From Reporter's Notebook" A. Lyubimtsev, Inspector of Personnel Otdel, Joint Institute for Nuclear Research at Dubna, reports that a lecture entitled "Decisions of 24th CPSU Congress and Problems of Improvement of Management" was presented at the House of Scientists of the Joint Institute for Nuclear Research at Dubna by OLEYNIK, Yu. A., Dep Director, Central Mathematical-Economics Institute, AS USSR; Candidate of Economic Sciences.

Leninskoye Znamya, 26 May 71, p 4, cols 2-3

(1)

AzSSR, USSR

25 May 71

IBRAGIMOV, I. A., First Dep Chmn, Council of Min, AzSSR, opened an all-union meeting on automation held in Baku.

OLEYNIK, Yu. A., Dep Dir, Central Economic-Mathematical Institute, AS, USSR, and

AZIMOV, B. A., Head, Science and Technology Otdel, Council of Min, AzSSR; Corresponding Mbr, AS, AzSSR, addressed the meeting.

Bakinskiy Rabochiy, 26 May 71, p 2, col 3

(3)

USSR

UDC 621.372.852.1(088.8)

OLEYNIKOV, A. D.

"Tunable Waveguide Filter"

USSR Author's Certificate No 255427, Filed 23 Oct 68, Published 31 Mar 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B128P)

Translation: The proposed filter consists of a round waveguide and a coaxial resonator with a piston connected to the round waveguide by a system of longitudinal slots. In order to increase the steepness of the frequency characteristic the piston is executed from several cylindrical rings inserted one into the other and moving independently of each other. There are two illustrations.

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USSR

UDC 621.317.742

BESSONOV, A. F., and OLEYNIKOV, G. N., Sevastopol' Instrument Building Institute, Chair of Physics

"Investigation of the Oxidation in Air of Metallic Uranium by High-Temperature Methods"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 5, 1972, pp 104-107

Abstract: A high-temperature method is described for measuring the work function of electrons from the surface of investigated specimens during heating. The experimentally derived x-ray data are discussed by reference to diagrams showing the temperature dependence of the intensity of determined diffraction reflections and the time dependence at a given temperature of the work function of electrons. The results demonstrate the arrangement of layers by thickness of scale in the oxidation process of uranium in air, which is in good agreement with published data. The work function of electrons increases linearly according to the degree of isothermic uranium oxidation. The application of the high-temperature measuring method, which notes only those changes on the surface layers, is of great value in studies of oxidation-reduction processes of metals and oxides. Three figures, ten bibliographic references.

1/1

Powder Metallurgy

USSR

UDC 541.1:538.22:546.73.4

ANASTASYUK, N. V., KLENOV, E. N., OLEYNIKOV, N. N., and TRET'YAKOV, YU. D., Department of Chemistry, Moscow State University imeni M. V. Lomonosov

"Properties of Nickel-Cobalt Ferrites with a Different Chemical Prehistory"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye materialy, Vol 8, No 1, 1972, pp 198-199

Abstract: The objective of the study was to determine the extent to which sintering conditions can eliminate the distinctions related to the chemical prehistory of ferrite powders and the extent to which sintering conditions would compensate for the inhomogeneity and low activity of ceramic specimens compared to schoenite specimens. Involved in the experiment were specimens of $Ni_{1-x}Co_xFe_2O_4$ (x = 0.0; 0.2; 0.4; 0.6; 0.8; 1.0). Regardless of the x value in the formula $Ni_{1-x}Co_xFe_2O_4$, the optimal sintering temperature for the schoenite specimens was determined to be 1270°C and for ceramic specimens 1350°C. The mean crystallite size was slightly smaller in the ceramic specimens as compared to that in the schoenite specimens (5.5±0.3 and 6±0.3 μ, respectively). A major factor here is that the state of magnetostriction saturation is attained in much lower fields in schoenite materials than in ceramic materials. This is obviously related to the different degree of

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USSR

ANASTASYUK, N. V., et al., Neorganicheskiye materialy, Vol 8, No 1, 1972, pp 198-199

chemical inhomogeneity and density, which indicates that distinctions due to the chemical prehistory of the powders cannot be completely eliminated by adjustments in sintering conditions. (Two illustrations, 1 bibliographic reference).

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF QUENCHING FROM ROLLING HEAT ON THE MECHANICAL AND TECHNOLOGICAL PROPERTIES OF STRUCTURAL STEELS -U-

AUTHOR-(05)-PISKUN, V.T., OLEYNIKOV, N.P., KAPLIY, N.I., IVASHCHENKO, V.M., STYCHINSKIY, L.P.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(2), 161-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STRUCTURAL STEEL, STEEL QUENCHING, MECHANICAL PROPERTY, MANGANESE STEEL, SILICON STEEL, STEEL TEMPERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1867 STEP NO--UR/0133/70/030/002/0161/0163

CIRC ACCESSION NO--AP0115686

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0115686
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL BARS (14-22 MM DIAM.) CONTG. C 0.16-0.35, MN 0.48-1.35, AND SI TRACE-1.05PERCENT WERE QUENCHED IN WATER FROM THE ROLLING HEAT FOR 10-14 SEC AND TEMPERED BY RESIDUAL HEAT. THE TREATMENT GENERALLY IMPROVED MECH. PROPERTIES, AS COMPARED WITH THOSE OF THE HOT ROLLED STOCK. FACILITY: DONETS. POLITEKH. INST., DONETSK, USSR.

UNCLASSIFIED

USSR

OLEYNIKOV, O. G., and SYUSYUKIN, A. A., All Union Scientific Research Institute of Foot-and-Mouth Disease, Ministry of Agriculture USSR, Vladimir

"Interference and Interferon Producing Properties of Inactivated Foot-and-Mouth Disease Virus"

Moscow, Voprosy Virusologii, No 5, 1971, pp 625-626

Abstract: A model of foot-and-mouth disease virus $A_{22}$ (strain 663) in calf kidney cells was used to study the effect of heat inactivation (37°C), pH 7.4 to 7.6 or 9.0, on the interferance and interferon producing activity of virulent and attenuated strains of the virus. The attenuated strain lost its infectiousness sooner than the virulent strain. However, inactivation under the indicated conditions had no effect on the interferon-producing activity of the virulent strain, but it greatly decreased that of the attenuated strain. These differences are probably related to the genetic characteristics of the strains.

USSR

UDC 619+576.8.094.29

SYUSYUKIN, A. A. and OLEYNIKOV, O. G., All-Union Scientific Research Foot-and-Mouth-Disease Institute, Pokrov, Vladimirskaya Oblast

"The Interference and Interferonogenic Properties of Foot-and-Mouth Disease Virus in Vivo"

Moscow, Sel'skokhozyaystvennaya Biologia, Vol 8, No 5, Sep/Oct 73, pp 756-760

Abstract: The interferonogenicity of foot-and-mouth disease virus attenuated by passage through calf kidney tissue culture or heat-inactivated was studied. Interference, measured as a reduction of the mean lethal dose titer and delay of death, was observed in adult mice for both forms of virus, but not in new born mice or guinea pigs. In calves attenuated virus did not affect the formation of the primary aphtha after infection, but did increase the incubation period by 24-42 hours. Serous interferon was found, as indicated by the fact that it decreased the titer in grown mice. The formation was short-lived, and peaked at 18 hours. The results are said to show that the manifestation and intensity of interference depend on the origin of the virus, the age and type of animal and the interval between virus inoculations.

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USSR

UDC 636+576.8.094.29

SYUSYUKIN, A. A., and OLEYNIKOV, O. G., All-Union Scientific Research Institute of Foot-and-Mouth Disease, Vladimir

"Interference and Interferon Producing Properties of Foot-and-Mouth Disease Virus in vitro"

Moscow, Sel'skokhozyaystvennaya Biologiya, No 5, 1971, pp 764-768

Abstract: The interference and interferon producing properties of foot-and-mouth disease virus vary with its origin, methods of cultivation, and experimental conditions. Virus $A_{22}$ attenuated in calf kidney cells at 24°C as an interferon inducer (150th passage) markedly reduced the accumulation of virulent homologous virus and suppressed its cytopathic effect when grown in the same culture at 37°C. The cells were completely protected against the cytopathic effect when the interval between virus inoculations was increased to 36 hours. Interferon production was lower than at 37°C and lowest at 40°C. The virulent virus induced less interferon in the culture than did the attenuated strain. Calf kidney cells and cattle lingual epithelial cells in response to infection with attenuated virus acquired partial resistance to infection with virulent virus while interferon accumulated in the culture fluid. Cultures of pig kidney cells and newborn

USSR

SYUSYUKIN, A. A., and OLEYNIKOV, O. G., Sel'skokhozyaystvennaya Biologiya, No 5, 1971, pp 764-768

hamster kidney epithelial cells did not produce interferon when infected with foot-and-mouth disease virus.

Veterinary Medicine

USSR UDC 619:616.988.43.097

OLEYNIKOV, O. G., All Union Scientific Research Foot-and-Mouth Disease

"Interference and the Sensitivity of Virulent and Attenuated Foot-and-Mouth Disease Virus to Interferon"

Moscow, Veterinariya, No 1, Jan 71, pp 39-41

Abstract: A study of the interference of attenuated $A_{22}$ foot-and-mouth disease virus (strain No 663) with a virulent strain and comparison of the sensitivity of the two strains to homologous exogenous interferon in a culture of calf kidney cells was conducted. Serologically different virulent strains were equally sensitive to interference by the attenuated virus. The inhibition of viral replication increased with increasing length of the interval between inoculations of the viruses, presumably because of the action of the interferon produced by calf kidney cells in response to infection with the virulent virus. Exogenous interferon inhibited the replication of the attenuated virus more than it did that of the virulent strains, regardless of the duration and temperature of incubation of the cells or the concentration of interferon in the medium, because interferon partly blocked the cells susceptible to infection, by the virulent viruses.

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1/2 031 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THE STABILITY OF MR 20-50 MOLYBDENUM-RHENIUM THERMOCOUPLES IN AN ARGON ATMOSPHERE -U-

AUTHOR-(03)-OLEYNIKOVA, L.D., OLEYNIKOV, P.P., TRAKHTENBERG, L.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZMERITEL'NAYA TEKHNIKA, NO 2, 1970, PP 91-92

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT

TOPIC TAGS--THERMOCOUPLE, THERMAL STABILITY, THERMAL EMF, HIGH TEMPERATURE EFFECT, ARGON, MOLYBDENUM ALLOY, RHENIUM ALLOY/(U)MR20 50 THERMOCOUPLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/1571 STEP NO--UR/0115/70/000/002/0091/0092

CIRC ACCESSION NO--AP0114159

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0114159
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF AN ANALYSIS OF EXPERIMENTAL DATA, THE MR 20-50 (O PLUS 20PERCENT RE-MO PLUS 50PERCENT RE) THERMOCOUPLE IS PROPOSED, WHICH CAN BE USED FOR LONG TERM MEASUREMENTS OF HIGH TEMPERATURES IN NEUTRAL MEDIA, IN A VACUUM, AND IN HYDROGEN. THE STABILITY OF THE THERMO ELECTROMOTIVE FORCE OF THIS THERMOCOUPLE IN AN ARGON MEDIUM WAS STUDIED BY THE AUTHORS AT TEMPERATURES OF 1300-1800DEGREESC. AN EXPERIMENTAL LOT OF THERMOELECTRODE ALLOYS WAS PRODUCED AT THE MOSCOW ELECTRIC VACUUM DEVICE PLANT. THE RESULTS ARE PRESENTED.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310007-4"

USSR UDC: 621.317.742(088.8)

OLEYNIKOV, V. N.

"A Device for Measuring Voltage Standing Wave Ratio"

USSR Author's Certificate No 277889, filed 6 Mar 69, published 12 Nov 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A308 P)

Translation: This Author's Certificate introduces a device for measuring VSWR on a low SHF power level. The device contains a wide-band detector head and a circular polarization exciter. As a distinguishing feature of the patent, signal losses in the load are reduced by placing a rotating probe in the section of circular waveguide of the above-mentioned polarization exciter.

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1/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--BROAD BAND SLOTTED WAVEGUIDE EXCITER OF CIRCULARLY POLARIZED H SUBII WAVES -U-
AUTHOR-(02)-OLEYNIKOV, V.N., BOYKOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, NO 5, 1970, PP 1080-1081

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--CIRCULAR WAVEGUIDE, RECTANGULAR WAVEGUIDE, WAVEGUIDE PROPAGATION, EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0615 STEP NO--UR/0109/70/000/005/1080/1081

CIRC ACCESSION NO--AP0132775
UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132775

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS COMMUNICATION DESCRIBES A SLOTTED WAVEGUIDE FOR EXCITING WAVES IN A 42PERCENT RANGE WITH A RESIDUAL ELLIPTICITY FACTOR OF 1.015. IT CONSISTS OF A PRIMARY WAVEGUIDE OF RECTANGULAR CROSS SECTION AND A SECONDARY CIRCULAR WAVEGUIDE INTERCONNECTED BY THREE NARROW SLOTS. TO OBTAIN MINIMUM ELLIPTICILITY THE SLOTS ARE SET INTO THE RECTANGULAR WAVEGUIDE AT DEFINITE ANGLES TO EACH OTHER, AND TO PRECLUDE E SUBO1 OSCILLATIONS, THE SLOTS ARE SET ALONG THE RADII OF THE CIRCULAR GUIDE CROSS SECTION. THE AUTHORS DEVELOP THE THEORY OF THE EXCITER AND ASSERT THAT EXPERIMENTS THEY PERFORMED ON 12 WAVEGUIDE SECTIONS PROVE THEIR THEORY CORRECT.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--AZEOTROPIC DISTILLATION OF XYLENES STUDIED TO SELECT INDUSTRIAL QUALITY ANALYZERS -U-

AUTHOR-(02)-OLEYNIKOVA, A.F., POPOVA, G.YE.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (1), 29-31

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DISTILLATION, XYLENE, CHROMATOGRAPHY, AUTOMATIC CHEMICAL PROCESS CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0807 STEP NO--UR/0318/70/000/001/0029/0031

CIRC ACCESSION NO--AP0119714

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CORRELATION EXPTL. DETD. BETWEEN D PRIME20 AND N PRIME20 SUBD AND THE CONTENT OF XYLENES WAS USED FOR AUTOMATIC CONTROL OF COLUMN OPERATION WHEN THE COMPN. OF THE FEED VARIED. CONTINUOUS CONTROL OF THE PROCESS WAS PROVIDED BY MEANS OF SELECTED AUTOMATIC APP. FOR MEASURING D PRIME20 AND N PRIME20 SUBD AND BY CHROMATOG. FACILITY: NOVOKUIBYSHEVSK. FILIAL SKB ANN, NOVOKUIBYSHEVSK, USSR.

UNCLASSIFIED

USSR

UDC 621.391.821.029.51

REMIZOV, D. T., OLEYNIKOVA, I. V., KOROLEV, A. N., VYSKREBTSOV, I. G.

"Spectrum of the Fluctuation Component of Atmospheric Noise in the Superlong Wave Range"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 291-294

Abstract: Results are presented for measuring the spectrum of the fluctuation component of atmospheric radio noise in the superlong wave range by the method of spectrographic analysis of the random process from which the pulse component is eliminated in advance. The admissibility of variation of certain parameters characterizing the measurement technique within significant limits was demonstrated experimentally.

Two measurement techniques were used. The first comprised two successive operations: 1) separation of the fluctuation component from the pulse component during reception on a broad frequency band of 1-27 kilohertz, 2) measurement of the spectrum of the fluctuation component. The second method consisted in photographing the noise approximately 100 times in a 5-10 minute interval from an oscillographic screen from which oscillograms were subsequently selected on which the pulse noise was absent. Good agreement was obtained by the two methods.

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1/2 031 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THE STABILITY OF MR 20-50 MOLYBDENUM-RHENIUM THERMOCOUPLES IN AN ARGON ATMOSPHERE -U-

AUTHOR-(03)-OLEYNIKOVA, L.D., OLEYNIKOV, P.P., TRAKHTENBERG, L.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZMERITEL'NAYA TEKHNIKA, NO 2, 1970, PP 91-92

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT

TOPIC TAGS--THERMOCOUPLE, THERMAL STABILITY, THERMAL EMF, HIGH TEMPERATURE EFFECT, ARGON, MOLYBDENUM ALLOY, RHENIUM ALLOY/(U)MR20 50 THERMOCOUPLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/1571 STEP NO--UR/0115/70/000/002/0091/0092

CIRC ACCESSION NO--AP0114159

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0114159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF AN ANALYSIS OF EXPERIMENTAL DATA, THE MR 20-50 (0 PLUS 20PERCENT RE-MO PLUS 50PERCENT RE) THERMOCOUPLE IS PROPOSED, WHICH CAN BE USED FOR LONG TERM MEASUREMENTS OF HIGH TEMPERATURES IN NEUTRAL MEDIA, IN A VACUUM, AND IN HYOROGEN. THE STABILITY OF THE THERMO ELECTROMOTIVE FORCE OF THIS THERMOCOUPLE IN AN ARGON MEDIUM WAS STUDIED BY THE AUTHORS AT TEMPERATURES OF 1300-1800DEGREESC. AN EXPERIMENTAL LOT OF THERMOELECTRODE ALLOYS WAS PRODUCED AT THE MOSCOW ELECTRIC VACUUM DEVICE PLANT. THE RESULTS ARE PRESENTED.

UNCLASSIFIED

USSR

UDC 669.295.5'27

OLEYNIKOVA, S. V., NARTOVA, T. T., and KORNILOV, I. I., Moscow

"Structure and Properties of Ti-W System Alloys with High Titanium Content"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 3, May-Jun 71, pp 192-196

Abstract: The structure and properties of Ti-W alloys with up to 8at% W (25wt%) were investigated. Titanium iodide and a Ti-W alloy containing 7.9at% W were used as initial materials from which samples were prepared. The phase equilibrium was studied by methods of microstructural, thermal differential, and phase roentgen analyses, as well as by optic pyrometer. The thermal stability was studied by the method of centrifugal bending. Hardness measurement (on a Vickers apparatus with a 10-kg load) and specific electrical resistance showed the linear dependence on tungsten content. The investigations confirmed a eutectoid-type of titanium-rich region of the Ti-W system phase diagram. The temperature of the eutectoid transformation in the system was determined on the basis of thermal analysis. The established character of the chemical interaction in the Ti-W system was confirmed by investigations of hardness, specific electrical resistance, and thermal stability with respect to composition.

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UDC 621.396.6-181.48(088.8)

USSR

ARSHINOV, V. I., DMITRIYEVA, S. K., KANDYBA, P. Ye., KOMAROVSKIKH, N. I., LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K., OLEYNIKOVA, V. A.

"A Method of Making Diodes for Thin-Film Cryotrons"

USSR Author's Certificate No 297129, filed 16 Oct 69, published 6 Apr 71 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11V368 P)

Translation: The proposed method for making diodes for thin-film cryotrons is based on sequential application of films of gold and a superconducting metal. As a distinguishing feature of the patent, a lead film with subsequent annealing at a temperature of 100-120°C is used as the superconducting metal to improve the technique of making the cryotronic integrated microcircuits, to increase speed, and to make the output signal more reliable. Resumé.

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USSR UDC: 621.318.57

ARSHINOV, V. I., DMITRIYEVA, S. K., KANDYBA, P. Ye., KOMAROVSKIKH, N. I., LAVRISHCHEV, V. P., LAPIR, G. M., MAZITOV, R. K., OLEYNIKOVA, V. A.

"A Method of Making Diodes for Thin-Film Cryotrons"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 9, Mar 71, Author's Certificate No 297129, Division H, filed 16 Oct 69, published 2 Mar 71, p 176

Translation: This Author's Certificate introduces a method of making diodes for thin-film cryotrons. The procedure is based on sequential application of gold and superconducting metal films. As a distinguishing feature of the patent, the technology of making cryotron integrated circuits is improved and the speed and output signal voltage of the cryotrons are increased by using a lead film as the above-mentioned metal with subsequent annealing at 100-120°C.

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USSR UDC 77

BORIN, A. V., SLESAREVA, V. I., MOROZOVA, G. G., OLEYNIKOVA, V. I.

"The Effect of Sodium Thiosulfate on Photographic Properties and Storage Life of Optically Sensitized Emulsion Layers"

Uspekhi nauchn. fotogr. (Advances in Scientific Photography), 1970, Vol. 14, pp 116-123 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1337)

Translation: The effect of different amounts of sodium thiosulfate (I) introduced into optically sensitized emulsions on the change in their properties and additional light sensitivity at the time of introduction when the emulsions stand in a melted state or when dry layers are kept for an extended period is investigated. The introduction of I before the dyes only slightly effects the sensitivity properties but considerably lowers the additional sensitivity under subsequent optical sensitization (it drops more for more sodium thiosulfate). The effect of I as the melted emulsion stands is the same and depends on its quantity and on the dye; a retardation of the drop in the additional sensitivity and its

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acceleration or transition from acceleration to retardation are encountered. Similar phenomena were observed under extended storage of dry layers: as in the melted state sodium thiosulfate may also cause a rise in fogging; it is especially considerable in those cases when the emulsion layers contain polyethylene glycol. The different effects of I under different conditions are primarily associated with its two functions: etching of the AgHal surface, by which the bond of the sensitivity centers with the surface is weakened, and the effect of dyes on the rate of discoloration, the products of which can desensitize or fog the emulsion. Displacement of the dye from the AgHal is also possible due to I, and in the presence of polyethylene glycol there is also slow oxidation of I and an intensification of electron-acceptor properties of sensitivity centers. 16 references. Authors abstract.

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1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--HARNESSED METAL -U-

AUTHOR--OLGIN, YU.

COUNTRY OF INFO--USSR

SOURCE--STROITEL, NAYA GAZETA, AUGUST 9, 1970, P 3, COLS 3-5

DATE PUBLISHED--09AUG70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SHEET METAL, STRUCTURE STEEL, RESEARCH FACILITY, CONSTRUCTION MATERIAL/(U)16G2AF STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1886 STEP NO--UR/9024/70/000/000/0003/0003

CIRC ACCESSION NO--AN0125489

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AN0125489

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE IMPLIES THAT THE CENTRAL SCIENTIFIC RESEARCH AND DESIGN PLANNING INSTITUTE OF STEEL STRUCTURES (TSNIIPSK) HAS SOME ORGANIZATIONAL PROBLEMS. HENCE, THE AUTHOR, WHO INTERVIEWED VLADIMIR VASIL, YEVICH KUZNETSOV, CHIEF ENGINEER OF THE INSTITUTE, DECIDED TO ASK QUESTIONS PERTAINING ONLY TO RESEARCH ACTIVITIES OF THE INSTITUTE. THE TSNIIPSK IS THE LEADING INSTITUTE OF A CORPORATION WHICH DESIGNS 1,500,000 TONES OF STEEL STRUCTURES ANNUALLY. THIS IS ONE THIRD OF THE TOTAL VOLUME OF SUCH WORK DONE IN THE SOVIET UNION. A TEAM OF INSTITUTE'S ASSOCIATES, DIRECTED BY V. S. DVORNIKOV WHO HEADS THE DEPARTMENT OF COMPREHENSIVE MECHANIZATION, HAS DEVELOPED A PRODUCTION LINE FOR THE FABRICATION OF SHEET METAL PARTS. G. D. POPOV AND N. G. TERZIYEV HAVE DESIGNED A LOAD BEARING PRESTRESSED WALL. THE INSTITUTE INITIATED THE USE OF THE HIGH STRENGTH 16GAF STEEL IN THE CONSTRUCTION OF BUILDINGS FOR HOUSING STEEL CONVERTERS. THE MOST SIGNIFICANT WORK DONE BY THE INSTITUTE, HOWEVER, IS THE 1971-1980 PLAN OF THE TECHNICAL EXPANSION AND LOCATION OF PLANTS PRODUCING METAL BUILDING STRUCTURES. THIS PLAN ESSENTIALLY PREDETERMINES THE ENTIRE TECHNICAL POLICY OF DESIGN PLANNING AND PRODUCING METAL STRUCTURES.

USSR

UDC 661.143:620.179.05(088.8)

MALKES, L. YA., OL'GINSKIY, A. G., KRASOVITSKIY, B. M., MCHEDLOV-PETROSYAN, O. P., STAROSEL'SKIY, A. A., and MEL'NICHENKO, P. A.

" A Luminescent Paste for Flaw Detection on Porous Materials"

USSR Author's Certificate No 329191, filed 24 Jul 70, published 20 Mar 72 (from RZh-Khimiya, No 22, Nov 72, Abstract No 22L152P)

Translation: A luminescent paste for flaw detection on porous materials has been developed which reveals flaws over a wide range of dimensions. Example. Preparation of the luminescent past, and technique for using it: 0.075 g 1,8-napthoylene-1',2'-benzimidazole is dissolved with heating to 80°C in 100 g of mineral oil, the solution is cooled and thoroughly mixed in a mortar with 100 g of MgO. The resultant paste is applied to the surface of the material (refractories, porous glass, artifical stone) and thoroughly rubbed in. The excess is removed and the material is observed in ultraviolet light; glowing defects are clearly visible on the surface. When detecting flaws in concrete and ceramics, the materials to be tested are soaked in water before application of the paste; this prevents penetration of the luminescent paste into the fine pores (less than one micron) inherent in the nature of the material, and as a consequence prevents fluorescence of the

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MALKES, L. YA., et al., USSR Author's Certificate No 329191, filed 24 Jul 70, published 20 Mar 72

entire surface under ultraviolet light which would make it impossible to pick out the flaws against the overall glow of the background. MgO adsorbs the luminescent oil, which then gradually flows into the defects, enables thorough washing of the luminescent paste from the surface of large defects (bigger than 1000 microns). The proposed paste can be used for quality control of raw material and finished goods on various stages of the technological process and in use, and does not require complicated special equipment. The composition of the proposed paste (in wt.%): 1,8-naphthoylene-1',2'-benzimidazole 0.04, mineral oil 49.98, marcuric oxide 49.98. N. Sh.

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USSR

UDC 621.791.052:621.787:620.169.1:
669.295:620.178.311.868

LUK'YANOV, V. F., [redacted], LYUDMIRSKIY, Yu. G., KHESIN, Yu. D., BODUNOVA, M. B., Rostov-na-Donu Institute of Agricultural Machine Building

"Influence of Surface Hardening on Low-Cycle Durability of Type B120VCA Titanium Alloy in a Corrosive Medium"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 72, pp 26-27.

Abstract: A method of testing welded joints in biaxial bending is developed, allowing the influence of a corrosive medium on low-cycle fatigue of joints to be determined. Tests are performed in a 3% solution of NaCl under loading conditions characteristic for sheet structures. In the test installation developed, the specimen is suspended over a cavity and deformed by the pressure of air pumped into the sealed cavity, with the top of the specimen covered by the salt solution. The tests indicate that plastic deformation of a welded joint by rolling of the joint between narrow rolls can significantly increase durability under these conditions.

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USSR UDC 621.396.67:621.372.22(088.8)

GUREVICH, R. V., BAKAYEV, N. T., OLIFIN, L. K., SMILOVENKO, L. I.

"A Feed Line for Short-Wave Band Antennas"

USSR Author's Certificate No 254587, Filed 29 May 67, Published 25 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10B93 P)

Translation: The proposed feed line for short-wave band antennas is made in the form of a wire feeder suspended on supports. To improve matching over a wide frequency range and increase the transmitted power, the supports are set at different distances from each other; for instance for a feeder with eight supports, the first spacing is selected in the range of 95-100%, the second--75-85%, the third--90-100%, the fourth--55-65%, the fifth--60-70%, the sixth--70-80% and the seventh--55-65% of the maximum permissible spacing for the given type of feeder.

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USSR

UDC: 621.391.17:621.396.671.3

OLIFIN, L. K. (Deceased), BUKHVINER, V. Ye., GUREVICH, R. V., and KABAKOVA, A. G.

"Comparison of Receiver Antenna Noise Immunities"

Moscow, Radiotekhnika, No. 6, 1970, pp 66-71

Abstract: The article compares the noise protection provided by antennas 3BS-2 and BS-2, high-frequency antennas used in Soviet broadcasting networks. The BS-2 is recommended as standard for a main radio line 3000 km in length, but has relatively poor noise immunity; the more complex 3BS-2, made up of three BS-2's one behind the other, gives better noise immunity. The measurements on which the comparison is based were made repeatedly and by various means, in 1959-1960, 1966, and more recently. The results of the measurements and descriptions of the procedures and instruments involved are presented. Four of the major results are listed: on practically all frequencies of the shortwave range, the noise immunity of the 3BS-2 was from 1.3 to 3 times that of the BS-2 in Network I; similar results were obtained on Network II; the coefficient of ionic dispersion for network I with a horizontal vibrator was 4-7.5 times less with the 3BS-2 and 3-6 times less with the BS-2; the reliability of communication of the 3BS-2 may exceed that of the BS-2 by as much as 20%.

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USSR UDC 582.288.32:576.8.097.29

KENINA, Sh. M., OLIFSON, L. Ye., and ZHILIN, A. N., Orenburg State Medical Institute

"Fat-Splitting Capacity and Toxicity of Fusarium sporotrichiella Bilai"

Leningrad, Mikologiya i Fitopatologiya, No 3, 1970, pp 247-250

Abstract: Five strains of F. sporotrichiella var. sporotrichioides and four strains of F. sporotrichiella var. poae were cultured on a mineral medium containing sunflower oil in order to determine whether there is a relationship between the lipolytic ability of the fungi and their toxicity. All strains grew well, but the acid numbers of the sunflower oil (indicating the lipolytic activity of the fungi) differed. Wheat kernels were then infected with the various fungal strains and either fed to pigeons or applied to the skin of rabbits. A comparison of the acid numbers of the infected sunflower oil with the toxicity of the fungi on wheat kernels failed to show any correlation. For example, strains 319 and 2,009, found to be nontoxic according to both bioassays, have higher acid numbers than the toxic strains 2,005 and 5,253.

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USSR

UDC 621.378.329

BOGDANKEVICH, O. V., KOROLEV, S. V., NASEDKIN, A. A., OLIKHOV, I. M., PETROV, D. M.

"Use of a Microwave-Modulated Electron Beam for Semiconductor Laser Pumping"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 4, "Sovetskoye Radio", 1971, pp 97-99

Abstract: SHF modulation of semiconductor laser emission is achieved by using a microwave-modulated electron beam for laser pumping. A mode of emission is obtained in which multiple division of the pulse repetition frequency with respect to the frequency of the modulating SHF signal is attained. The authors thank V. A. Dorofeyev and G. N. Yanonis for assistance with the work. Three figures, bibliography of six titles.

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USSR

UDC 531.787.913.087.92

ATAKULOV, B.A., AFUZOV, A.YA., BILYALOV, E.I., OLIMOV, KH., FAYZIYEV, P.R.

"Concerning Strain Resistivity Properties Of p-Type Films Of GeTe and PbTe"

Dokl. AN UzSSR (Proceedings Of The Academy Of Sciences, Uzbek SSR), 1972, No 2, pp 30-31 (from RZh:Elektronika i yeye primeneniye, No 7, July 1972, Abstract No 7B378)

Translation: An experimental study is made of the dependence of resistance on strain [deformatsiya] during compression and expansion, for polycrystalline films of GeTe and PbTe deposited by thermal evaporation in a vacuum of $10^{-4}$ mm of mercury on a 3 x 10 x 0.018 $mm^3$ paper substrate. In the absence of strain, the resistivity of the GeTe and PbTe films equals, respectively, 1.4 and 0.3 ohm.cm. 6 ref. V.K.

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USSR

UDC: 621.385.832.012.001.24

VAYNORIS, Z. A., SHTARAS, S. S., OLISHAUSKAS, V. K.

"Calculating the Frequency Responses and Transfer Characteristics of Traveling Wave Tubes"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72, pp 1990-1993

Abstract: In order to determine the relation between the parameters of the deflecting system and the characteristics of a traveling wave tube (TWT), and also to establish the influence of various factors on the frequency and time properties of TWT's, the authors calculate the frequency responses and transfer characteristics of a TWT with regard to the transit time of a helix turn, mismatch between the velocities of the electromagnetic wave and of the electrons themselves, dispersion and attenuation in the deflecting system, the frequency dependence of the wave impedance of the system, reflections from its input and output, and the dependence of the transverse component of the electric field on frequency when constant power is transmitted through the system.

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USSR UDC 620.172.251.226

KOVPAK, V. I., and OLISOV, A. N., Institute of Problems of Strength, Academy of Sciences Ukrainian SSR

"Some Features of High-Temperature Creep in Nickel-Base Alloys"

Kiev, Problemy Prochnosti, No 3, Feb 73, pp 48-52

Abstract: The principles of the creep process were investigated for two nickel-base alloys (EI617 and EI826). The experimental data were treated by the different known equations for determining their possible application to the prognosis of the creep characteristics according to the results of tests of restricted duration. Alloy EI617 was tested in the 750-900°C interval at stresses of 7-40 kG/mm$^2$, and alloy EI826 -- in the 750-880°C interval at stresses of 10-50 kG/mm$^2$. The method is described of making the prognosis of creep characteristics which is based on the assumption of a condition of "equivalency of material damage," and is true for determining the temperature-time intervals. An additional basis for the assumption about equivalency of the rates of steady-state creep in specified temperature-time intervals was evident in the fact that, at higher temperatures, structural changes in alloys (particularly precipitation and coalescence of secondary phases) occur at a rapid rate, although the sequence of these changes is preserved. This assumption was verified by the nature of change in the shapr of creep curves. Five figures, 12 bibliographic references.
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OLISOV, V., Doctor of Medical Sciences

"What Is New in Treating Meniere's Disease"

Moscow, Meditsinskaya Gazeta, 16 Nov 71, p 3

Abstract: At the otolaryngological clinic of the First Leningrad Medical Institute imeni Academician I. P. Pavlov, four years of experience have been accumulated in treating Meniere's disease by inhalations of various gases through a standard dispenser and mask system. Three sample inhalations are used to determine the nature of vasomotor disturbances in the labrynth: 5-7 percent admixture of $CO_2$ in oxygen (called carbogen), 3-5 percent $CO_2$ in air, and pure oxygen. It has been learned that patients fall into three groups: (1) those whose vestibular disturbances and dull headaches disappear after 10-15 minutes inhaling the carbogen or air-and-$CO_2$ mixtures -- 36 percent; (2) those who benefit from inhaling pure oxygen -- 30 percent; (3) the remainder (34 percent), who do not benefit from either type of inhalation. The first group often shows exacerbated symptoms if pure oxygen is inhaled, and the second group reacts negatively to the carbogen and air-and-$CO_2$ mixtures. Inhalation schedules have been set up with three 10-15 minute sessions

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OLISOV, V., Meditsinskaya Gazeta, 16 Nov 71, p 3

at intervals of 3-4 hours for persons in hospitals, and two inhalations 20-30 minutes apart for persons on walk-in treatment. There are individual variations in scheduling and dosages, but the short-term effect requires daily usage for 10 days to a month. In addition, it is customary to inject 500 ml of $CO_2$ under the skin at the hip for the vasospastic form of the disease, and 500 ml of pure oxygen for the vasoparalytic form. Inhalations are not prescribed for several hours before this injection or for 24 hours after. While patients have had to return for repeated treatment, no complications have been observed.

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USSR UDC 576.858.8:633.11

SHERBAN, O. D., and OLIYNIK, A. M., Institute of Microbiology and Virology, Academy of Sciences Ukrainian SSR

"Identification of the Virus of Wheat Streak in Moldavia"

Kiev, Mikrobiologicheskiy Zhurnal, Vol 33, No 1, Jan/Feb 71, pp 56-60

Abstract: Examination of winter wheat crops in Moldavia in 1969 disclosed that the wheat was infected with streak mosaic. The crops were infested with four-legged mites of the family Eriophyoidea. By placing these mites on infected plants and then transferring them to healthy plants, the infection could be transmitted to healthy plants. The infection could also be transmitted by rubbing leaves of healthy plants with a mixture of the sap of infected plants and carborundum. By applying this method, the disease was transmitted from wheat to barley and corn plants. Seeds and soil did not transmit the infection. The virus in the sap of infected wheat plants was inactivated on heating the sap at 55-56°C for 10 min. It retained its infectiousness on dilution of the sap up to 1:1000 and for 2 and 7 days, respectively, on storage of the undiluted sap at room temperature and 4°C. The activity of the virus was preserved for more than 3 mos in infected green leaves stored at minus 8°C- minus 5°C. Examination under an electron micro-

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SHERBAN, O. D., and OLIYNIK, A. M., Mikrobiologicheskiy Zhurnal, Vol 33, No 1, Jan/Feb 71, pp 56-60

scope indicated that the virus particles had a shape typical for the virus of wheat streak mosaic. The virus was identical with that isolated earlier in Romania and the Ukraine.

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USSR UDC 619:616.9-022.6+636.1+636.2+636.4+636.52/58

TSYMBAL, V. I.; OLIYNIK, M. K.

"Interdependence of Titers of Various Antibodies from Cattle Convalescing from Foot-and-Mouth Disease Produced by Virus Variant $A_{22}$"

Kiev, V sb. Veterinariya (Veterinary Science -- Collection of Works [Ukrainian]), "Urozhay," No 26, 1970, pp 21-28 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.577)

Translation: Serum samples taken 2 to 375 days after foot-and-mouth disease from 85 animals, 1-14 years of age, were studied. A direct interdependence was found between the height of the neutralization index (NI) and titers of precipitating antibodies (PA) and antibodies inhibiting complement fixation. This interdependence is particularly pronounced 120-160 days after the animals have had foot-and-mouth disease. When the mean NI of a serum mixture was $10^{3.4}$, the PA titer was $> 1.0$, and it was equal to 1.0 when NI = $10^{2.4}$. The mean NI of a serum mixture

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TSYMBAL, V. I., et al, V sb. Veterinariya, "Urozhay," No 26, 1970, pp 21-28

with an antibody titer inhibiting complement fixation of $\geq$ 1:20 was equal to $10^{3.07}$, and with a titer of $>$1:20 NI, $10^{2.4}$ to $10^{2.6}$. The absence of PA and of antibodies inhibiting conglutination in remote periods after illness did not indicate the absence of an immunity; rather, in these periods virus-neutralizing antibodies were detected in the sera and a high resistance to foot-and-mouth disease virus variant $A_{22}$ in infected animals was noted for 8-12 months after convalescence.

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